WHAT IS CLAIMED IS:

1. An NMR probe adapted to be used for high-temperature NMR measurements, said NMR probe comprising:

two tubular heating means mounted respectively immediately below and immediately above an area to be measured by NMR spectroscopy;

a first heat transfer pipe disposed inside a tube formed by said heating means mounted immediately below the area to be measured, the pipe extending upward from said heating means, the pipe covering an area located below said area to be measured; and

a second heat transfer pipe disposed inside a tube formed by said heating means mounted immediately above the area to be measured, the second pipe extending downward from said heating means, said second pipe covering an area located over the area to be measured;

wherein a sample tube is inserted inside the two transfer pipes and a sample inside the sample tube is heated by heat that is transferred from the two heating means via the heat transfer pipes.

2. An NMR probe adapted to be used for high-temperature NMR measurements as set forth in claim 1, wherein said heat transfer pipes are made of gold or a nonmagnetic material that is comparable to gold in thermal conductivity and heatproofness.

3. An NMR probe adapted to be used for high-temperature NMR measurements, said NMR probe comprising:

two tubular heating means mounted respectively immediately

below and immediately above an area to be measured by NMR spectroscopy; and

a single heat transfer pipe disposed inside a tube formed by the two heating means, the transfer pipe bridging across the two heating means;

wherein a sample tube is inserted inside said single heat transfer pipe and a sample within the sample tube is heated by heat transferred from the two heating means via the heat transfer pipe.

4. An NMR probe adapted to be used for high-temperature NMR measurements as set forth in claim 3, wherein said heat transfer pipe is made of a nonmagnetic ceramic that is comparable to metals in thermal conductivity and heatproofness.

5. An NMR probe adapted to be used for high-temperature NMR measurements as set forth in any one of claims 1 to 4, wherein in said area to be measured, plural heat-insulating tubes are arranged coaxially with the sample tube such that the heat-insulating tubes are spaced from each other, and wherein an NMR detection coil is mounted in at least a part of the heat-insulating tubes.

6. An NMR probe adapted to be used for high-temperature NMR measurements as set forth in any one of claims 1 to 5, wherein electric powers supplied to the two heating means mounted respectively immediately below and immediately above the area to be measured can be controlled independently based on an output from a common temperature sensor.

7. An NMR probe adapted to be used for high-temperature

NMR measurements as set forth in any one of claims 5 and 6, wherein electric powers supplied to said heating means are kept constant while an NMR signal from the sample is being detected by said detection coil.

8. An NMR probe adapted to be used for high-temperature NMR measurements as set forth in any one of claims 1 to 7, wherein the tubes formed by said heating means, said heat transfer pipes, and said sample tube are coaxially arranged in intimate contact with each other.

9. An NMR probe adapted to be used for high-temperature NMR measurements as set forth in any one of claims 1 to 8, wherein a further pipe made of gold or a nonmagnetic material comparable to gold in thermal conductivity and heatproofness is mounted inside said heat transfer pipes and in contact with the bottom of said sample tube.

10. An NMR probe adapted to be used for high-temperature NMR measurements, said NMR probe comprising:

two tubular heating means mounted respectively immediately below and immediately above an area to be measured by NMR spectroscopy;

a coil bobbin on which an NMR detection coil is mounted; and

a single heat transfer pipe mounted separately from the coil bobbin and disposed in intimate contact with the inside a tube formed by said two heating means, the heat transfer pipe extending from the heating means toward said area to be measured;

wherein a sample tube is intimately inserted inside the heat transfer pipe and a sample within the sample tube is heated by heat transferred from the two heating means via the heat transfer pipe.